

# NanoDrop Lite Calibration Check Procedure

All NanoDrop™ Lite instruments are calibrated at the time of manufacture and include a Factory Test Report. It is recommended that a calibration check be performed every six months to verify the instrument is performing within specifications.

A vial of Thermo Scientific CF-1 Calibration Fluid is required to run the calibration check procedure. CF-1 is an aqueous potassium dichromate ( $K_2Cr_2O_7$ ) solution used to confirm the pathlength accuracy of NanoDrop Lite spectrophotometers.

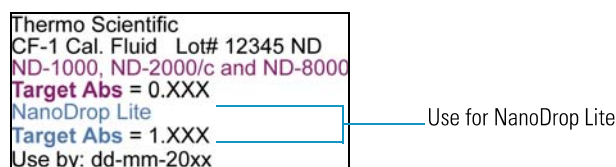
1. Ensure the pedestals are clean and that a 1 µl water sample “beads” on the lower pedestal, then wipe both pedestals dry.

If water does not bead, clean pedestals using the PR-1 kit.

2. From the **Home** screen, choose **Tools & Settings** and press **Select**.
3. Choose **Calibration Check** and press **Select**.
4. Choose **New Cal. Check** and press **Select**.
5. Enter the **Target Abs** found on the CF-1 vial by using the up or down arrows and press **Next**.

Make sure the target value entered corresponds to the NanoDrop Lite. Target absorbance should always be around 1.0.

**Figure 1.** Example of CF-1 label



6. Lift the arm and pipette 1 µl of deionized water onto the pedestal.
7. Close the arm and press **Blank**.
8. Wipe the water from the upper and lower pedestals with a laboratory wipe.
9. Repeat Steps 6 and 7 to confirm Blank using a fresh aliquot of deionized water.
10. Wipe the water from the upper and lower pedestals with a laboratory wipe.
11. Before opening the ampoule of CF-1, shake vigorously to ensure solution is thoroughly mixed and tap lightly to ensure solution is collected in the bottom portion of the ampoule.
12. Carefully break the neck of the ampoule to open the CF-1.

**Note** CF-1 is supplied in a single-use vial. CF-1 must be used within one hour of opening the vial. Exposure to the environment or transferring the fluid to another container may result in significant change in concentration.

13. Pipette 1 µl of CF-1 onto the lower pedestal, close the arm and press **Measure**.  
The 1<sup>st</sup> measurement result will appear on the screen.
14. Wipe the sample from both the upper and lower pedestals with a laboratory wipe, and pipette 1 µl of CF-1 on the lower pedestal, close the arm and press **Measure**.  
The 2<sup>nd</sup> measurement result will appear on the screen.
15. Repeat Steps 13 and 14 until 10 measurements have been collected.

**Tip** To ensure accurate results, be sure to wipe the top and bottom of the pedestal with a dry, lint-free laboratory wipe between measurements. Use a fresh aliquot of CF-1 and a fresh pipette tip for each measurement.

After all 10 replicates have been measured, results will display as Pass/Fail. If the calibration check results indicate Fail, thoroughly clean the pedestal following the directions on the “Pedestal Cleaning and Reconditioning” document or the Cleaning and Reconditioning sections in the User Guide, and then repeat the entire calibration check. If the calibration check results indicate Pass, proceed with step 16.

16. Insert the USB memory device.

17. Choose **Save Cal. Check** and press **Select**.

If the memory device was in place at the start of the calibration check procedure, go to the **Home** screen, choose **Save**, press **Select**, choose **Save Cal. Check**, and press **Select**.

The following message will appear on the screen: **Saving.....Do not remove media**. When this message disappears, it is safe to remove the USB memory device from the NanoDrop Lite.

After the data has been saved to the USB memory device, the data can be transferred to a computer to archive or print. The calibration check is now complete.

The calibration report cannot be printed on labels using the optional NanoDrop printer. Only new calibration reports can be saved on USB memory device and transferred to a computer for printing or archiving.

Only the most recent calibration check is saved to the instrument. Prior calibration check history is overwritten each time a calibration check is performed. The previous history cannot be retrieved.

#### ❖ To view the previous calibration check

1. Go to the **Home** screen, choose **Tools & Settings** and press **Select**.
2. Choose **Calibration Check** and press **Select**.
3. Choose **View Previous Cal. Check** and press **Select**.

**Note** The results of the last calibration check performed are available for viewing on the instrument screen, but cannot be printed or saved to a USB memory device.

#### Troubleshooting

- If the instrument does not pass the calibration check using 1 µl aliquots of CF-1, immediately repeat the procedure again using 2 µl aliquots of CF-1.
- If the procedure fails with 1 µl volumes but passes with 2 µl volumes, it is an indication that the pathlengths are within specifications but the pedestals may not be properly conditioned. Clean the pedestals with PR-1 and repeat the calibration check.
- If the instrument still does not pass the calibration check using 2 µl volumes, recalibration is required. Contact technical support. Outside of the US and Canada, please contact your local NanoDrop distributor.

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